STREAM INVESTIGATION, STABILIZATION & RESTORATION WORKSHOP WITH AN EMPHASIS ON INNOVATIVE APPROACHES AND TECHNIQUES TO AQUATIC AND RIPARIAN RESTORATION AND EFFECTS OF ICE

APRIL 6-9, 2004

CLASSROOM: **U.S. NAVAL RESERVE CENTER, 3 PORTER AVE, BUFFALO, NY**

FIELD SITES: **SELECTED LOCAL STREAMS**

THIS WORKSHOP IS FREE, TO REGISTER CONTACT: JON KOLBER Jonathan.E.Kolber@LRB01.USACE.ARMY.MIL. Provide Jon with your e-mail address as class notes will be sent out in about 1 month (you will have to copy & bring them to class)

SPONSORED BY THE U.S. ARMY CORPS OF ENGINEERS

DAY 1 – TUESDAY April 6, 2004

CLASSROOM INSTRUCTION: Dave Derrick, Corps of Engineer's Coastal & Hydraulics Laboratory (CHL)

8:00-8:15 Teacher Introduction and class schedule for entire week

8:15-9:00 The Philosophy of Restoration (Goal and Function Based Design) and Maintenance and Monitoring

Session 1: STREAMBED STABILIZATION

9:00-10:00 The Channel Evolution Model (CEM), Grade Control, and Newbury Rocked Riffles (with short break)

Session 2: STREAMBANK STABILIZATION –ALMOST EVERY BANK PROTECTION METHOD ANYONE HAS EVER HEARD OF

10:00-11:30 The Importance of the Riparian Buffer Zone - Plus Innovative Ideas to Restore Function to Aquatic and Terrestrial Areas WITH AN EMPHASIS ON THE EIGHTEEN MILE CREEK PROJECT, NEWFANE, NY

11:30-12:00 Bioengineering Philosophy and Methods for Streambank Protection Using Native Plants (with break)

12:00-1:00 **LUNCH**

1:00-2:15 Bioengineering (continued)

2:15-3:45 Indirect, Discontinuous, and Redirective Methods: Retards, Permeable Dikes, Jacks, Vane Dikes, Impermeable Structures Normal to Flow (Transverse Dikes, Contraction Dikes, Spur Dikes Both High & Low and Short & Long) L-Head & T-Head Dikes, Downstream Angled Structures, Upstream Angled Structures (Rock Vanes), the Bendway Weir, and Combinations of Redirective and Resistive Methods (with break).

3:45-4:00 Field Clothes and Equipment for Tomorrow – hip boots, camera, etc.

5:00-?? Repair to local watering hole (optional), site to be determined

DAY 2 – WEDNESDAY April 7, 2004
CLASSROOM SESSION 2: STREAMBANK STABILIZATION (continued)

8:00-8:10 Announcements and Housekeeping

8:10-9:30 Resistive and Continuous Bank Stabilization Methods (with break)

9:30-10:30 Proprietary Methods (grouped by function)

10:30-10:45 How to Choose a Bank Protection Method

10:45-11:00 Permits & Construction

11:00-12:00 How to Conduct a Field Investigation of a Streambank Erosion Problem

a. Fundamentals of Fluvial Geomorphology
b. How to Read a Stream
c. Field Equipment
d. Safety

12:00-1:00 **LUNCH**

1:00-1:30 How to Conduct a Field Investigation….. (continued)

1:30-2:00 Review (Dave's Design Considerations, 47 Ways to Stay out of Trouble)

2:00-2:45 Travel to Eighteenmile Creek Project field site, Fishermen's Park parking lot, Burt, NY (right off Route 78, north of Lockport, map provided)

SESSION 3: FIELD INVESTIGATION-"Every stream is a classroom"

2:45-4:45 Field Trip: Site Analysis of *Eighteenmile Creek Project*, Newfane, NY

a.) Development of project performance goals (function based)
b.) Analysis of existing, historical, and future flow and erosion processes and conditions
c.) Flow analysis of project (satisfies project goals?)
d.) Analyze overall effects of chosen design on the stream system and riparian corridor

4:45-5:00 Wrap-Up Design Analysis and Discuss Day 3 Activities also reminder about fish trail meeting this evening at 7:00pm

AND ONE MORE THING TODAY!!!!!

7:00 pm-until **FISH TRAIL MEETING** - Cornell Extension Service, Lockport, NY – Planning meeting for the WYN-FISH (Western New York-Fishing in Sportsmen's Heaven) fishing hotspots tourism trail!!!

While not related to the class, but connected spiritually, on Wednesday night, April 7th, 7:00 pm at the Cornell Extension Service big meeting room we are going to have the first brainstorming meeting to possibly develop a trail of fishing hot-spots encompassing all of Western New York, similar to the Robert Trent Jones Golf Course Trail in Alabama and Georgia. Everyone is invited to come and express ideas. Please invite your interested fellow professionals!!!! An announcement and further explanation of this meeting and concept is provided at the end of this e-mail.

DAY 3 – THURSDAY April 8, 2004
SESSION 4: FIELD INVESTIGATION
Field Site Analysis of Cayuga Creek, Village of Lancaster, NY (map hopefully will be provided)

8:30-9:00 Meet on or near the Lake Avenue Highway Bridge, immediately downstream of Como Park Lake and Dam, Village of Lancaster, Cayuga Creek. We will have some short introductions to history, uses, and goals and objectives for the existing project. We will then proceed as a group in walking, analyzing and designing in the downstream direction. This is an urban flood control channel, possible study and project to retrofit aquatic and riparian environmental habitat features within constraints of original project goals.

5-Minute Presentations:

A.) History, Uses and Maintenance Practices of the existing Flood Control Channel – Becky Anderson
B.) Goals and Functions of the Proposed CORPS Section 206 Project – Diane Kozlowski and/or Tony Friona, COE Buffalo District
C.) NYS-DEC Environmental Concerns and Aquatic Habitat Problems with the Existing Flood Control Channel – Mike Wilkins and/or Tim Spierto
D.) Possibilities of Developing Habitat Specifically for the Karner Blue Threatened and Endangered Butterfly – Rick White Sr., Allegheny Ecological Consulting, Inc.
E.) Other Planned Activities in the Watershed including the Lancaster Heritage Trail - Paul Fuhrmann, Ecology and Environment, Inc.
F.) Pep Talk and Possible Applications of Ideas we have Learned in the Last Couple of Days – Dave Derrick , COE-ERDC Vicksburg,

9:00-3:00 Walk stream until we drop!!!!! (LUNCH NOT PROVIDED)

DAY 4 – FRIDAY April 9, 2004
CLASSROOM INSTRUCTION: NAVAL RESERVE CENTER, BUFFALO, NEW YORK

Session 5: ICE FORUM – Presented by Andy Tuthill and Kate White of the U.S. Army Corps of Engineer's Cold Regions Research Laboratory (CRRL), Hanover, NH.

8:00-8:15 Teacher Introduction and overview of topics

8:15-9:00 Overview on River Ice Processes – Kate White

9:00-9:30 Cold Climate Considerations for Channel Restoration – Kate White

9:30-9:45 **Break**

9:45-11:00 Ice Issues and Concerns on Local Streams, and Case Study – Cazenovia Creek Ice Control Structure, West Seneca, NY – Andy Tuthill

11:00-11:30 Miscellaneous Questions and Wrap-up Workshop

WORKSHOP OVERVIEW AND GOALS{PRIVATE **}**

* Provide a consistent philosophy of bank stabilization design, with an emphasis on understanding the stream as a complex inter-related system, and understanding both local and system-wide processes and problems.

* Provide an overview of the concepts of grade control and the Channel Evolution Model (CEM)

* Provide instruction in developing appropriate project goals

* Teach bank protection methods and how to choose the appropriate method or combination of techniques

* Clarify the importance of project constructability, monitoring, and maintenance

* Teach students how to read a stream (with instruction in field equipment needs and safety), and how to perform a comprehensive analysis of a streambank erosion problem.

* Reinforce the classroom lectures by performing in-the-field site analyses, understanding the role of project goals in the development of conceptual flow analyses, and designing stabilization plans that relate to the project performance goals.

* Provide class handouts and notes & avenues for help

HERE YE! HERE YE! HERE YE!

LET IT BE ANNOUNCED THAT ANYONE INTERESTED IN STREAM AND AQUATIC HABITAT RESTORATION, TOURISM AND ECONOMIC DEVELOPMENT, AND JUST PLAIN OLD BETTER SPOTS TO FISH, IS HEREBY INVITED TO ATTEND A SPECIAL MEETING TO DISCUSS STRATEGIES TO DEVELOP AND PROMOTE A SERIES OF FISHING HOT SPOTS THAT COULD BE MARKETED TO BOTH TOURISTS AND THE LOCAL POPULATION IN THE SPIRIT OF THE ULTRA-SUCCESSFUL ROBERT TRENT JONES GOLF COURSE TRAIL.

With the current high interest in Western New York on restoration and rehabilitation of high-visibility stream systems (Eighteen Mile Creek at Burt Dam for example), and the ongoing depressed economic climate, it seems natural that we do our part in promoting some of the nifty places to fish that exist naturally, or have been created, or will be improved or created in the near future. A successful implementation of this idea could result in more funding to improve even more miles of streams, rivers, and lakes in our immediate area and a win win win situation (even more places to fish, more tourism dollars for the community, more work for guide services, and more projects for environmental restoration professionals).

Economic benefits could include increased demand for rafting, charter, and guide services, increased sales of fishing gear and related equipment, clothing, boats, waders, etc., and increased income for motels, hotels, airlines, rental cars, restaurants, and bars, to name but a few.

I urge each and every one of you to please attend this first meeting to gauge the possibility of developing and implementing this idea. With much hard work I believe we can be successful! Attendees, please think ahead and be prepared to participate and help supply ideas on:

1. a “catchy” (ha ha) descriptive name that identifies the area (that might also be a nifty acronym (WYN-FISH)"Western New York-Fishing in Sportsmen's Heaven" or something cool like that
2. Help identify and PLEASE contact agencies, angler groups, and other resource management professionals that might not have heard about this first meeting, or write their name and contact info on one of the registration cards
3. Help identify revenue streams-govt., corporate, political, etc.
4. Identify political partners
5. Folks with graphics skills please think out or sketch a logo for signs and/or ideas for pamphlets, web site cool stuff, etc.

WE DO WANT TO THINK OUTSIDE THE BUN HERE!

This first meeting will be held at 7:00 pm, April 7, 2004 at the Cornell Cooperative Extension Service-4H Training Center (Niagara County Fairgrounds), 4487 Lake Avenue, Lockport, NY. From Lockport go north on Route 78. It is about 2 miles north of town (on the right), about 1/8 mile past the red light intersection with Niagara Road. Take a right at the red sign and it is the first building on the right.

For more information & to help us get a head-count of attendees, please contact Bill Hilts Jr., Niagara County Sportfishing Coordinator, 716-439-7303 or willam.hilts@niagaracounty.com